

Microscope Lab Part 1

Purpose

1. Be able to identify the parts of the microscope and adjust the light.
2. Be able to list the steps in focusing on a slide under scanning power, low power, and high power.
3. Explain how to calculate the total magnification of each objective.
4. Measure the field of view under scanning power using a metric ruler.
5. Calculate the field of view for the low and high power objective.

Materials

1. Metric ruler
2. Microscope

Procedure

1. Using a metric ruler, measure the field of view under scanning power (4x)
2. Using the data obtained in #1, extrapolate the field of view for low power and high power. Complete the data table.

Data

| Objective | Total magnification | Field of view (mm) | Field of view (um) |
|------------------|---------------------|--------------------|--------------------|
| Scanning (4X) | 4x10= 40 | | |
| Low power (10X) | | | |
| High power (40X) | | | |

1 mm = 1,000um

To calculate the field of view for the low and high power objective.

$$\frac{\text{Scanning power magnification}}{\text{Low power magnification}} = \frac{\text{Low power field (mm)}}{\text{Scanning power field (mm)}}$$

$$\frac{\text{Low power magnification}}{\text{High power magnification}} = \frac{\text{High power field (mm)}}{\text{Low power field (mm)}}$$